BIPV: AN ESSENTIAL ROLE TOWARDS ENERGY TRANSITION

The EU 2030 Climate Target Plan aims to:

- REDUCE THE GREENHOUSE GAS EMISSIONS compared to 1990 by 55% to 2030
- INCREASE THE ENERGY PRODUCTION from renewables by 40% to 2030

To meet the targets, buildings need to become more energy efficient and use more renewable energy sources.

Photovoltaics on the built environment could play a relevant role thanks to their integration of PV and BIPV.

But… What is the difference between Pt and BIPV?

- Its purpose is primarily to produce energy
- It is a part of the building structure, with multifunctional use
- It can serve as aesthetical function

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- It involves the whole building
- It is highly customisable in shape, size and orientation

BIPV could play a relevant role thanks to its integration of:

Reducing the footprint of buildings in the urban landscape
- It is a part of the building structure, with multifunctional use
- It involves the whole building
- It is highly customisable in shape, size and orientation

In harmony with the architectural language, and the overall image of the composition and the context.

In addition to the production of solar energy, BIPV provides various benefits related to energy saving, such as control of the solar gain by filtering the entering light, or control of thermal exchange between inside and outside.

BIPV application can save the costs of the components it replaces. Moreover, the electricity produced provides a return on investment. Other indirect economical benefits are linked with the energy savings provided by its multi-functionality.

BIPV has a positive effect on the environmental footprint of a building, as its applications increase the use of renewable energy and can reduce the energy demand.

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The numerous benefits of BIPV applications:

- ENVIRONMENTAL
- ENERGY
- TECHNICAL
- ECONOMIC
- AESTHETIC

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To maximise the RES harvesting in the buildings, the interaction between buildings and energy systems has to be optimised.

Considering the complexity, expertise in different branches is needed and different actors should be involved and carefully coordinated in the design and installation process.

Digitisation can help optimise distributed PV generation by creating a virtual power plant that increases the flexibility of the BIPV project development process.

Discover more on BIPV Optimization Tool at platform.energymatching.eu!

Tips for a good BIPV integration:

- To maximise the RES harvesting in the buildings, the interaction between buildings and energy systems has to be optimised.
- Organisations can help optimise distributed PV generation by creating a virtual power plant that increases the flexibility of the BIPV project development process.
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BIPV can be integrated in many ways:

1. ROOF SYSTEM
2. FAÇADE
3. EXTERNAL DEVICES

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